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University Marketing and Communications

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Research by an Eastern Illinois University faculty member has landed him on the cover of the January/February 2008 issue of "ACSM's Health & Fitness Journal."

Jeffrey M. Willardson, assistant professor of kinesiology and sports studies, is featured with Jennifer Carter, a former student, in the issue coming out Friday, Dec. 28. The photo was taken by Doug Lawhead, also an EIU employee.

The bi-monthly publication, published by the American College of Sports Medicine, contains information primarily for fitness instructors, personal trainers, exercise leaders, program directors and other health/fitness and medical fitness professionals. Its content includes material from the latest exercise science and nutrition research, as well as current topics of interest for the health, medical, wellness and fitness industries.

Willardson summarized the research which goes with the magazine's cover:

"Recent estimates indicate that 80 percent of the population will suffer from low back pain at some point in their lives. Much of this suffering could be alleviated by exercising the abdominal and low back muscles that stabilize the spine.

"Current research conducted at Eastern indicated that performing weight training exercises while standing on the BOSU balance trainer might be ideal for exercising these muscles. (A BOSU balance trainer can be described as a half sphere mounted on a flat platform that is designed to make weight training exercises more challenging by increasing stability demands.)"

Willardson utilized electromyography to compare the activity of the abdominal and low back muscles during performance of common weight training exercises like the squat, overhead press and biceps curl while standing on the BOSU balance trainer versus standing on stable ground. Participants performed these exercises with a weight equal to 50 percent of their maximum strength. Significantly greater muscle activity was noted in the abdominal and low back muscles when these exercises were performed while standing on the BOSU balance trainer.

The outcomes of this research may lend greater insight into the mechanisms that stabilize the body when performing common weight training exercises under conditions of greater instability. Physical therapists can apply the results of this research project to design more effective treatment programs for patients with low back pain.